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⑬ Anti-sense regulation of gene expression in plant cells.

⑬ Regulation of expression of genes encoded for in plant cell genomes is achieved by integration of a gene under the transcriptional control of a promoter which is functional in the host and in which the transcribed strand of DNA is complementary to the strand of DNA that is transcribed from the endogenous gene(s) one wishes to regulate. The integrated gene, referred to as anti-sense, provides an RNA sequence capable of binding to naturally existing RNAs, exemplified by polygalacturonase, and inhibiting their expression, where the anti-sense sequence may bind to the coding, non-coding, or both, portions of the RNA. The anti-sense construction may be introduced into the plant cells in a variety of ways and be integrated into the plant genome for inducible or constitutive transcription of the anti-sense sequence. A wide variety of plant cell properties may be modified by employing this technique.

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DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
O, X	CHEMICAL ABSTRACTS, vol. 107, 1987, page 388, no. 74243f, Columbus, Ohio, US; D. GRIERSON et al.: "Expression and function of ripening genes", & PLANT BIOL. 1987, 4(TOMATO BIOTECHNOL.), 309-23 * Abstract *	11	C 12 N 15/00 A 01 H 1/00 C 12 N 5/00
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X	NATURE, vol. 315, 13th June 1985, pages 601-603; J. COLEMAN et al.: "A novel immune system against bacteriophage infection using complementary RNA (microRNA)" * Page 603, right-hand column, lines 5-12 *	1-3,6-10	TECHNICAL FIELDS SEARCHED (Int. Cl.4)
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The present search report has been drawn up for all claims			
Place of search THE HAGUE	Date of completion of the search 20-01-1989	Examiner MADDOX A.D.	
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone	T : theory or principle underlying the invention		
Y : particularly relevant if combined with another document of the same category	E : earlier patent document, but published on, or after the filing date		
A : technological background	D : document cited in the application		
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F : intermediate document	R : member of the same patent family, corresponding document		



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X	EP-A-0 159 779 (AGRIGENETICS) * Page 49, lines 1-9 *	6,8,9			
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E	EP-A-0 223 452 (MONSANTO) * Page 15, lines 13-33; example 9; page 17, lines 1-5 ---	1-3,5,6 -10			
P,X	WO-A-8 605 516 (DUKE UNIVERSITY) * Page 2, lines 10-22; page 11, lines 8-20; page 27, line 18 - page 28, line 2; claim 3 ---	1-3,5- 10			
E	EP-A-0 240 332 (LUBRIZOL) * Whole document *	1-3,6- 10			
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